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Thematic cluster for the implementation cycle 2010-2011 -- policy session

Policy options and actions for expediting progress in implementation: interlinkages and cross-cutting issues

Report of the Secretary-General

Summary

Strong interlinkages and interlocking relationships exist among the five issues in the thematic cluster. Policies and measures aimed at addressing one issue may have co-benefits for other issues and should therefore be considered in the context of an integrated approach in order for long-term progress to be achieved. Risk assessment and risk reduction are relevant to both chemicals and hazardous-waste management, while transport connects the nerve centres of economic activity and human population, with a high relevance for the transportation of chemicals, minerals and waste. Significant adjustments to policies and management practices will be needed in all four sectors — transport, chemicals, waste management and mining — to shift to sustainable consumption and production patterns. Such interlinkages are highlighted in the present report with a view to developing a menu of policy options and measures that have optimal effectiveness. Where appropriate, the interlinked aspects of the issues are also reflected in the separate thematic reports. International cooperative efforts can help to ensure that urgent and effective action is taken to build on the interlinkages among the issues in order to further the implementation of the sustainable development agenda.

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I. Introduction

1. At its eighteenth session, which was the review session of the fourth implementation cycle 2010-2011, the Commission on Sustainable Development undertook an evaluation of the progress made in the implementation of Agenda 21,[1] the Programme for the Further Implementation of Agenda 21,[2] and the Plan of Implementation of the World Summit on Sustainable Development (Johannesburg Plan of Implementation),[3] while focusing on the identification of constraints and obstacles in the process of implementation with regard to the current thematic cluster. The issues covered in this cluster relate to transport, chemicals, waste management, mining and the 10-year framework of programmes on sustainable consumption and production patterns. The report of the review session[4] includes a chair's summary that reflects the constraints and obstacles and possible approaches and best practices for the implementation of those intergovernmental agreements, as well as the way forward identified by the ministers who attended the high-level segment.

2. The present report is a contribution to the Commission's consideration of policy options and possible actions to address the constraints and obstacles to implementation identified in the report of the review session. At its nineteenth session, the Commission on Sustainable Development will take policy decisions on practical measures and options for expediting implementation with respect to the selected thematic cluster of issues, taking account of the discussions of the intergovernmental preparatory meeting, reports of the Secretary-General and other relevant inputs.

3. The present report draws on a number of sources, including national reports, the outcomes of regional implementation meetings and contributions from major groups, regional commissions and United Nations specialized agencies, funds and programmes. As close linkages exist among the five issues in this thematic cluster, the relevance of those interlinkages for policy options is considered here. The cross-cutting issues identified at the eleventh session of the Commission are also considered in the present report. The report should be read in conjunction with each of the thematic reports.

II. Interlinkages among thematic issues

4. A holistic approach to the thematic cluster can yield better results by addressing the interlinkages among the issues, especially in the process of considering policy options, undertaking actions and implementing on-the-ground projects. It is also important to note that significant interlinkages exist among the

[1] *Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992*, vol. I, *Resolutions Adopted by the Conference* (United Nations publication, Sales No. E.93.I.8 and corrigendum), resolution 1, annex II.

[2] General Assembly resolution S-19/2, annex.

[3] *Report of the World Summit on Sustainable Development, Johannesburg, South Africa, 26 August-4 September 2002* (United Nations publication, Sales No. E.03.II.A.1 and corrigendum), chap. I, resolution 1, annex.

[4] E/2010/29.

themes of the current cycle and those of previous cycles, inter alia, human settlements, water, agriculture and climate change.

5. A life-cycle perspective helps to elucidate the linkages among the themes of the current cycle, with sustainable consumption and production as a unifying theme encompassing key aspects of each of the other themes. A life-cycle perspective reinforces the responsibility of actors along the whole chain of a product's life cycle to consider their contribution to its sustainable production and consumption, including consideration of any "external" effects on the environment.

6. Natural resources are extracted through mining in various parts of the world. They are transported to serve as input for the production of materials and chemicals that then go into many varieties of industrial products, which are consumed and used and which, at the end of their useful life, become waste. If hazardous chemicals are a part of products, the resulting waste can also be hazardous, as in the case of electronic products such as computers, mobile phones and televisions. If waste is not adequately managed, it can harm humans and ecosystems, and chemicals can be released into the environment. Transport is an increasing part of the life cycle of products owing to the ever-increasing distances that many materials, chemicals, products and wastes travel.

7. Addressing those themes together facilitates the development of policy recommendations for resource efficiency, with a view to decoupling economic growth from resource use and environmental impacts throughout the product life cycle.

8. Interlinkages with the issues in other thematic clusters are also important. For example, pesticide management is used to introduce sustainable and environmentally sound agricultural practices that reduce the health and environmental risks associated with the use of pesticides. To that end, the Food and Agriculture Organization of the United Nations (FAO) has introduced the International Code of Conduct on the Distribution and Use of Pesticides. Additionally, with the help of the World Health Organization (WHO), the FAO Panel of Experts on Pesticide Residues in Food and the Environment considers the available recognized residue data collected through supervised trials. On the basis of those data, maximum residue levels are proposed for individual pesticides in individual food and feed items or well-defined groups of commodities.

9. Energy is another important link throughout this thematic cluster, as it is an important component in the management of chemicals and waste and is used in mining and transport. Waste can also provide a source of energy. The sustainable use of energy and the use of renewable energy can reduce greenhouse-gas emissions linked to climate change and that are associated with activities in all four sectors, especially transport.

10. Even though volatile and historically high oil prices have raised concerns about energy security and reduced dependence on fossil fuels, an energy revolution based on the widespread deployment of low-carbon technologies could be a response to the climate change challenge. According to *Energy Technology Perspectives 2010*, there are early signs that such an energy technology revolution is under way. Investment in renewable energy, led by wind and solar, is increasing substantially. In the area of transport, major car companies are adding hybrid and full-electric vehicles to their product lines, and many Governments have launched

plans to encourage consumers to buy such vehicles. Yet those encouraging developments represent only the first small, fragmented steps of a long journey towards transforming the way in which we supply and use energy. The trends that drive growth in energy demand and carbon dioxide emissions continue to surge forward at an unrelenting pace.[5]

11. Water is another issue that has important interlinkages with regard to the current thematic cycle. For example, it is important to protect watercourses and terrestrial ecosystems from pesticides and industrial chemicals. With respect to waste management, in developing countries landfills are often located near water sources for households; treatment of wastewater is also an important element in the safeguarding of human health and the environment.

12. In terms of transport, ships often generate a number of waste streams that include sewage, grey water, oily bilge water and ballast water. If not properly treated and disposed of, such wastes can become a significant source of pathogens, nutrients and toxic substances that are potentially threatening to human health and aquatic life, particularly in environmentally pristine coastal areas.

13. Together with energy, water is necessary for the extraction and processing of minerals and metals. The use of more sustainable methods of production can reduce water consumption. For example, steel production from scrap in electric-arc furnaces reduces such consumption by 40 per cent compared with steel production from iron ore in a blast furnace.[6] Surface mines can contaminate water sources, while underground mines are associated with problems related to acid mine-water drainage. Additionally, the disposal of tailings from mining has been a pervasive cause of environmental damage and is polluting water sources. According to the World Resources Institute, almost one third of all active mines are located in stressed watersheds, and more than one third are in areas that may be predisposed to water-quality problems.[7]

14. Owing to their small size and their geological, topographical and climatic conditions, small island developing States are among a group of countries that face major constraints in terms of the quality and quantity of freshwater resources. This is particularly true in the case of low-lying coral islands, where groundwater supplies are limited and protected only by a thin, permeable soil. Thus the contamination of water supplies through improper waste disposal or management of agricultural chemicals poses a particular problem for those States. Likewise, the dependence of their economies on marine resources and coastal tourism means that marine waste — whether from local land-based activities, transported across the seas or originating from ships — also poses a threat to local economies.

15. The Pacific Hydrological Cycle Observing System was established in 2007 to build the capacity and infrastructure of Pacific small island developing States. A resource book and a handbook on integrated water resources management in small island developing States, which contains input from and the experiences of small island developing States in the Caribbean, the Pacific and the Atlantic, Indian Ocean, Mediterranean and South China Seas region, will be published by the United Nations Environment Programme (UNEP) in 2011.

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[5] *Energy Technology Perspectives 2010*, International Energy Agency, 2010.

[6] See E/CN.17/2010/7.

[7] Ibid.

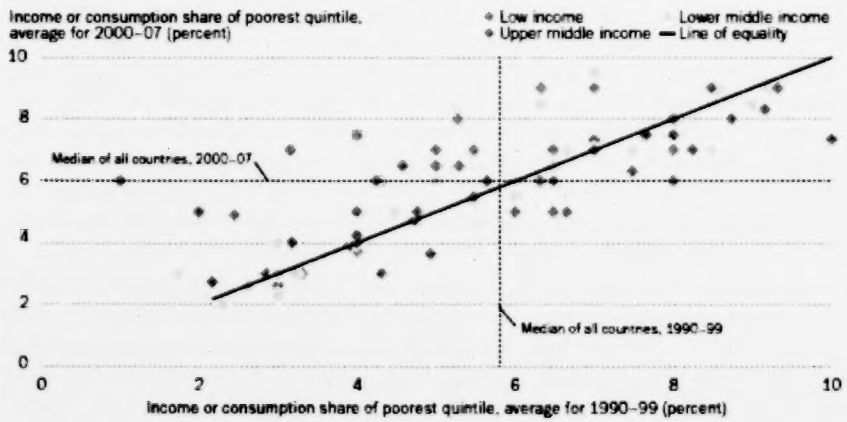
III. Cross-cutting issues

16. A key challenge for the future is how to maintain an upward convergence of living standards together with a downward convergence (or shrinkage) of ecological footprints.

17. The current unsustainable use of natural resources at the global level is endangering not only the state of the environment, essential ecosystem services and biodiversity, but also human health and the well-being of present and future generations. It is therefore necessary to change consumption and production patterns in order to address the challenges related to poverty eradication, long-term food security, climate change and biodiversity loss. The sustainable consumption and production agenda is very broad, but resource and energy efficiency improvements are at its heart. It also includes measures to improve the safe management of chemicals and hazardous waste as well as to minimize waste and maximize recycling, and to support sustainable mining practices and sustainable transport systems.

18. The poorest 20 per cent of the population accounts for just 6 per cent of total income or consumption. Since 1990, that share has shown the greatest increase in low-income countries, but it has tended to shrink in upper-middle-income countries (see fig. I). Consumers in developed countries and wealthy consumers everywhere must take the lead in moving towards sustainable patterns of consumption. Production systems also need to move towards sustainable patterns of resource use, which would reduce pollution and waste. Developed-country enterprises can chart the way forward, supporting their suppliers and partners around the world with technology and know-how.

Figure I
Income or consumption share of poorest quintile



Source: *World Development Indicators 2010*, World Bank.

19. Enhancing human and social capital through education and inclusive social participation as well as cost-effective, reliable, and affordable infrastructure services, including sustainable transport, and strengthening the sound management

of chemicals as well as of hazardous and solid waste by emphasizing prevention and managing natural resources in an integrated and holistic manner will result in development that will increase the overall prosperity of society. This will also require the strengthening of an enabling environment for implementation, inter alia, through participatory decision-making by all stakeholders, including women; access to finance and global and regional markets; improved educational opportunities; and adequate access to information not only by experts but also by the general public, in order to minimize health risks and injuries related to chemicals, waste, mining and transport.

20. All five current themes relate to the Millennium Development Goals. Thus, the sound management of chemicals can reduce child mortality (Goal 4) and improve maternal health (Goal 5). Annually, more than 3 million children under age 5 die from preventable environment-related causes. Elimination of the use of mercury in health-care and consumer products, a move away from solid indoor fuels, the use of insecticide-treated bednets, improved water and sanitation systems, measures aimed at slowing traffic and a host of other interventions can successfully lower the rate of environment-related death and reduce suffering among children in many countries. The Third International WHO Conference on Children's Health and the Environment called for a global plan for action, to be developed by WHO and UNEP.

21. The sound management of chemicals can lead to improved human and environmental health, increased economic security and income opportunities. UNEP has joined forces with the United Nations Development Programme (UNDP) in a partnership aimed at integrating the sound management of chemicals into development plans such as poverty reduction strategy papers and strategies to meet the Millennium Development Goals. This involves establishing links between poverty and sound chemicals management and identifying the policies and programmes needed to bring about pro-poor chemicals management. It also entails looking at the potential chemicals-related risks arising from the implementing sections of the development plans and trying to mitigate such risks at the planning stage.

22. Waste management, especially as it relates to sanitation and safe drinking water, contributes to environmental sustainability (Goal 7).

23. The small island developing States face particular problems in the area of waste given their low environmental and socio-economic carrying capacities. Current waste management practices have resulted in the degradation of coral reefs, seagrass beds, mangroves and coastal zones, as well as of freshwater resources, resulting in health warnings about disease and risks from contaminated water and food supplies. Such developments threaten tourism, fisheries and even food security.

24. Many poor people depend on waste streams to earn their livelihoods. Innovative, often small-scale waste management schemes that convert waste into resources contribute directly and indirectly to poverty alleviation and gender equality.

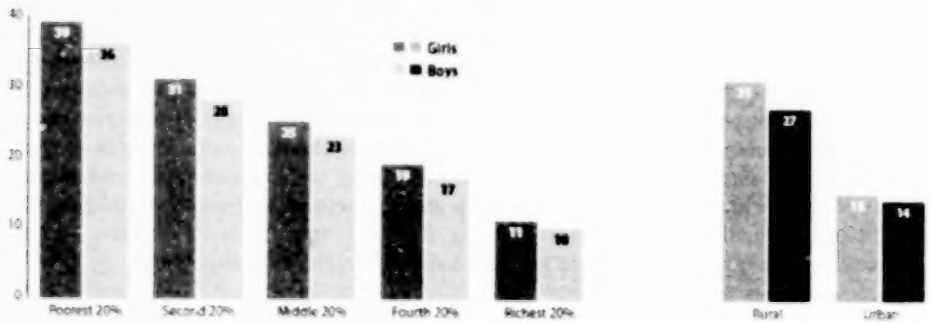
25. According to recent national estimates by the secretariat of the United Nations Framework Convention for Climate Change, the waste sector, including waste water, produces, on average, 2.4 per cent of national greenhouse-gas emissions. The anaerobic degradation of organic materials in landfills and unwarranted dumpsites is a key source of such emissions, creating methane. However, the waste sector is in a unique position to transform itself from a minor source of greenhouse-gas emissions

to becoming a major saver of emissions. It has been possible recently to recover energy and other useful products from waste owing to the considerable technological breakthroughs that have been made, which have led to the implementation of waste-to-energy projects. The prevention and recovery of wastes (i.e., as secondary materials or energy) reduces emissions in other sectors of the economy. Energy-recovery projects have been the recent focus of Government investments in developed countries. The waste-to-energy market was estimated at $19.9 billion in 2008 and, according to forecasts, the market will grow 30 per cent by 2014.[8]

26. Transport is an important element in terms of achieving universal primary education (Goal 2). Household data from 42 countries show that rural children are twice as likely to be out of school as children living in urban areas, partly because of poor transport[9] (see fig. II). In countries with lower rates of access to roads, the percentage of girls enrolled in schools is lower. Schools may be far and hard to reach, and many households prefer to fund the transport cost for boys to attend schools.[10]

Figure II

Out-of-school children by wealth quintile and area of residence, girls and boys, 42 countries, 2000/2008 (percentage)



Source: Millennium Development Goal Report 2010.

27. A statistical analysis of the relationship between poverty incidence and road development shows that a decline in poverty rates can — to a significant degree — be attributed to improved road access (see fig. III). In addition to the positive effect of universal road access on poverty, dynamic effects on social and economic development may include: (a) the possible abandonment of subsistence production by many rural people in favour of migration to urban centres; (b) changes in rural land values as roads bring previously isolated areas into the market economy; (c) the newfound profitability of certain investments; and (d) an improved flow of market-related information, with benefits in terms of economic efficiency.[11]

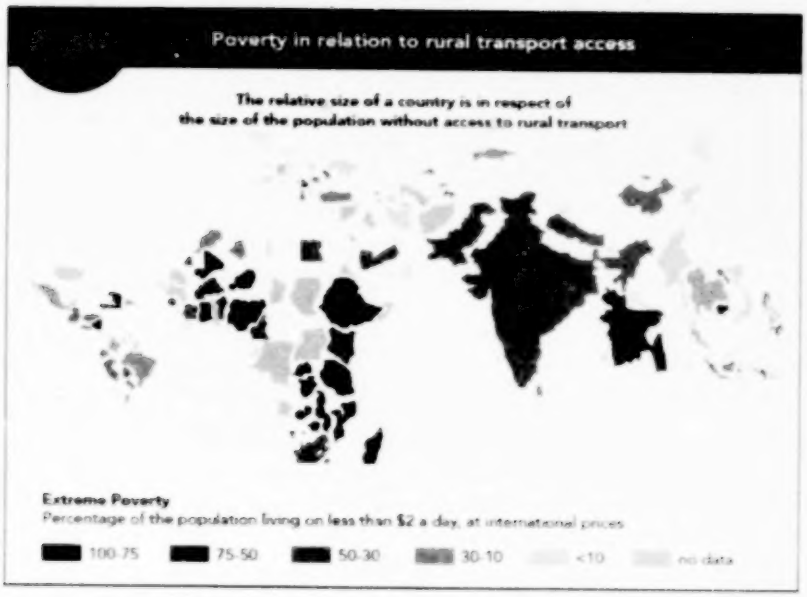
[8] Available from www.bccresearch.com.

[9] Ibid.

[10] Department of Economic and Social Affairs, *Trends in Sustainable Development. Chemicals, mining, transport and waste management* (United Nations publication, Sales No. 10.II.A.3).

[11] Ibid.

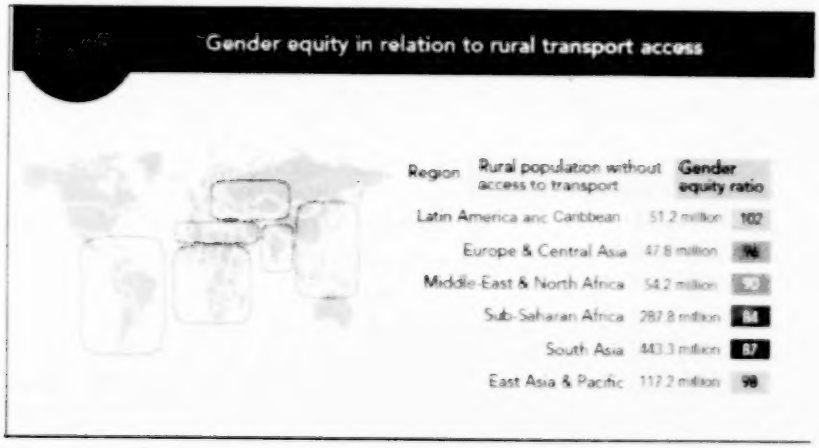
Figure III


Poverty in relation to rural transport access
The relative size of a country is in respect of the size of the population without access to rural transport
Extreme Poverty
Percentage of the population living on less than $2 a day, at international prices
100-75
75-50
50-30
30-10
<10
no data

Source: Department of Economic and Social Affairs, *Trends in Sustainable Development. Chemicals, mining, transport and waste management*, 2010.

28. Studies have also shown a correlation between gender equity and transport (see fig. IV). In areas where access to roads and transport is better, gender equity is greater. This also affects the safety of women and maternal health.

Figure IV



Source: Department of Economic and Social Affairs, *Trends in Sustainable Development. Chemicals, mining, transport and waste management*, 2010.

29. The volume of transport matters most to economic activity, but the transport mix is just as important for the environment. Developing countries now account for the majority of greenhouse-gas emissions from electricity and heat as well as industry, while developed countries still account for a majority of emissions in the transport and building-use sectors.[12] Switching to more sustainable modes of transport in developed countries thus has a larger immediate potential to contribute to climate-change mitigation in particular and pollution reduction in general. In future, most private transport growth will occur in developing countries, so they, too, will need to stimulate rapid growth of public and other low-emissions transport.

30. Sustainable consumption and production also contributes to poverty eradication and development in a number of ways. For example, greater efficiency in resource use and a reduced environmental impact from the production of goods and services over their life cycle result in improved productivity and lower costs. This allows for more to be done with less, and the provision of cleaner and more resource-efficient goods and services (such as water, energy and food) allows more people to meet their basic needs. More resource-efficient production practices allow consumers in developing countries to meet more of their needs (and therefore consume more) by using the same amount of, or even fewer, resources; in this way, more efficient and sustainable production effectively expands the resource base available to the poor.[13]

31. Sustainable consumption and production also offers the possibility of "leapfrogging" to more resource-efficient, environmentally sound and competitive technologies, bypassing inefficient, polluting and ultimately costly phases of development. That could improve the competitiveness and access of local products to national, regional and international markets, thereby increasing the possibilities for generating new revenue streams and economic growth, which in turn, if distribution policies and activities are in place, can contribute to poverty eradication.

32. Through a better understanding of social impacts along the life cycle, potential improvements can be identified for global product chains. The UNEP publication *Guidelines for Social Life Cycle Assessment of Products* provides a framework for assessing and reporting on the social and socio-economic impacts and benefits of products along their life cycles, from the extraction of natural resources to final disposal.[14]

33. The issues of health and sustainable development are inextricably linked. In this context, health implies concern for quality of life in both the short and long term for poor and rich alike. It is also dependent on the choices consumers make regarding their lifestyle, including in the areas of nutrition, smoking, and the use of psychoactive drugs or alcohol.

34. Health is a cross-cutting issue in all of the themes of this cycle. More than 25 per cent of the global burden of disease is linked to environmental factors, including exposure to chemicals. Some 800,000 children each year are affected by lead exposure. Unintentional poisonings kill an estimated 355,000 people each year.

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[12] Ibid.

[13] See http://www.unep.fr/scp/poverty/faq.htm.

[14] Available at http://www.unep.fr/scp/publications/details.asp?id=DTI/1164/PA.

In developing countries, such poisonings are associated strongly with excessive exposure to and the inappropriate use of toxic chemicals, including pesticides.[15]

35. Experiences and efforts in promoting the sustainable management of chemicals indicate that overcoming the challenges involved in integrating the sound management of chemicals into development plans depends largely on a greater understanding of the linkages between health and the environment. On that basis, UNEP and WHO joined efforts to organize a process aimed at catalysing policy and the institutional and investment changes required to reduce environmental threats to health in support of sustainable development. Tools and methodologies have been developed to undertake country situation analyses and needs assessments for the identification of national priorities, with a view to the development of national joint action plans.

36. Improper waste disposal practices (e.g., open dumps, which are the most common disposal method in developing countries) have led to many undesirable health effects, including skin and eye infections, respiratory problems and vector-borne diseases such as diarrhoea, dysentery, typhoid, hepatitis, cholera, malaria and yellow fever.

37. Gender is another important cross-cutting issue interlinking the five themes. For example, women tend to leave a smaller ecological footprint than men owing to their more sustainable consumption patterns. The lifestyles and consumer patterns of men, be they rich or poor, tend to be more resource-intensive and less sustainable than those of women.[16] A more "feminine" footprint would have a smaller impact on the environment. Women are more likely to recycle, buy organic food and eco-labelled products and place a higher value on energy-efficient transport. They make more ethical consumer choices, paying closer attention to issues such as child labour and sustainable livelihoods, and are more apt to buy socially labelled goods.[17]

38. Women also bear a disproportionate burden in terms of maintaining sustainable lifestyles. Thus, while they may want to increase the sustainability of their consumer choices, they need assistance in reducing their impacts on the environment. For instance, a study of gender and sustainable consumption in Sweden has found that in most families, household and family duties remain the responsibility of women. Women are therefore often pressed for time, which makes the pursuit of sustainable consumerism and lifestyles difficult. The study notes that while gender equity policies have supported the development of greener lifestyles, policy also needs to focus on ways of inducing producers to deliver high-quality, sustainable products at attractive prices.[18]

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[15] WHO, *Preventing disease through healthy environments: Towards an estimate of the environmental burden of disease*, 2006; available at www.who.int/quantifying_ehimpacts/publications/preventingdisease/.

[16] Johnsson-Latham, G. (2006), *Initial study of lifestyles, consumption patterns, sustainable development and gender*, Stockholm, Ministry of Sustainable Development.

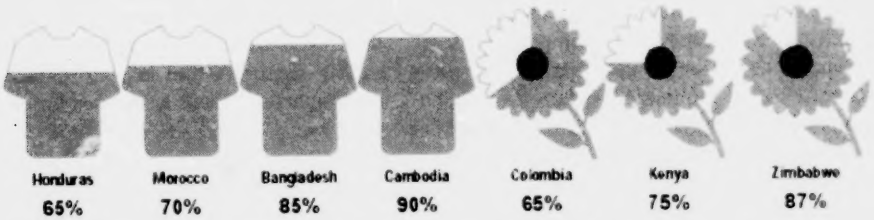
[17] OECD, "Gender and sustainable development: Maximizing the economic, social and environmental role of women", 2008.

[18] Isenhour, C. and M. Ardenfors (2009), "Gender and sustainable consumption: policy implications", *International Journal of Innovation and Sustainable Development*, vol. 4, No. 2-3, pp. 135-149.

39. On the production and corporate side, gender perspectives may also be relevant to sustainability. At the highest levels of private enterprise in the world's largest corporations, there are still very few women Chief Executive Officers, so it is difficult to know with any certitude how an increase in their number would change the way in which such companies are run. It has been hypothesized, however, that they would be more likely to mainstream corporate social responsibility into business decision-making.[19]

40. At the shop-floor level, women are increasingly visible in export-oriented sectors in middle-income developing countries, where they comprise up to 90 per cent of workers (see fig. V). Women now form the larger part of the workforce in low-skill, labour-intensive jobs in textile, clothing, pharmaceuticals, household goods and toy production in developing countries.[17] Good corporate practice therefore needs to be gender-sensitive, especially in such labour-intensive industries, addressing the particular concerns of women in the workplace along with the broader issue of decent work, which concerns both genders.

Figure V
Women as share of total workers in the export production of clothing and flowers



Source: OECD, "Gender and sustainable development: Maximizing the economic, social and environmental role of women", 2008.

41. Governments can promote more sustainable corporate behaviour by providing support for sustainability reporting systems and international instruments. Some countries, including France and Sweden, are moving to make reporting mandatory.[20] More companies are now publishing corporate sustainability reports to inform consumers and other stakeholders of their environmental and social values and practices at home and abroad. While the corporate social responsibility approach to promoting sustainable production — focused on large multinational corporations — is gaining ground, it is only gradually trickling down to small- and medium-scale enterprises along global supply chains. Many goods are still produced using underpaid child or female labour or environmentally damaging processes, or with neglect for basic health and safety rules. On the positive side, multinational companies are increasingly being held accountable for the production impacts of their suppliers, including in terms of the environment, safety and health, and workers' rights. More international codes of conduct are addressing the issue of

[19] See http://business-ethics.com/2010/10/07/1624-when-women-rule-the-c-suite/.

[20] *Carrots and sticks — Promoting transparency and sustainability: An update on trends in voluntary and mandatory approaches to sustainability reporting* (2010) (English only), available at http://www.unep.fr/scp/business/publications/.

reporting and monitoring with respect to how a company's product range supports sustainable production along the global supply chain.

42. Education is another important cross-cutting issue, especially in the area of consumption and production patterns. Rethinking and revising formal and informal education, from preschool to university, to include more principles, knowledge, skills, perspectives and values related to sustainable consumption is important now and in future. Changes in values and in world views generally occur only gradually, so what is done in terms of education today may show tangible benefits only later on.

43. One recent article highlights the challenges facing educators and education in the coming decades, noting:

> We need an educational culture and practice adequate and appropriate to the volatile, densely interconnected and dangerously vulnerable world that we have created. Instead of educational thinking and practice that tacitly assumes that the future is some kind of linear extension of the past, we need ... an anticipative education, recognising the new conditions and discontinuities which face present generations, let alone future ones: the massive challenges of global warming, species extinction, economic vulnerability, social fragmentation and migration, endemic poverty, the end of cheap energy, and, more positively, the rise of localism, participative democracy, green purchasing, ethical business and efforts to achieve a low-carbon economy. The heart of such an education is an ecological orientation. Other descriptors which help capture this sense are "holistic", "systemic" and 'participative'; they indicate a redesigned educational paradigm that is in essence relational, engaged, ethically oriented, and locally and globally relevant.[21]

44. At a practical level, some international initiatives have been developed to assist the integration of sustainable consumption into education and raise awareness about sustainable lifestyles. These include the UNEP/United Nations Educational, Scientific and Cultural Organization (UNESCO) YouthXchange programme on sustainable lifestyles aimed at educators and young people, the initiatives and tools developed by the international Task Forces on Education for Sustainable Consumption and on Sustainable Lifestyles under the Marrakech Process on sustainable consumption and production,[22] and the multi-stakeholder partnerships and initiatives led by civil society organizations such as the Partnership for Education and Research about Responsible Living, the Consumer Citizenship Network and the Center for Environmental Education. Tools have also been designed to support education and awareness-raising on sustainable lifestyles and consumption, including the publication entitled *Here and now! Education for sustainable consumption: Recommendations and guidelines*, developed by UNEP and the Task Force on Education for Sustainable Consumption in cooperation with the secretariat of the United Nations Decade of Education for Sustainable Development and Hedmark University College, in Norway, in the framework of the Marrakech Process on sustainable consumption and production; the UNESCO "Guidelines and recommendations for reorienting teacher education to address

[21] Sterling, S., "Sustainable education — Towards a deep learning response to unsustainability", *Education for Sustainable Development*, vol. 6, 2008.

[22] The first is led by Italy, the second by Sweden; see www.unep.fr/scp/marrakech/taskforces/education.htm and www.unep.fr/scp/marrakech/taskforces/lifestyles.htm.

sustainability", at the global level; and Portugal's "Guide to consumer education", at the national level.[23]

45. In all respects, sustainable consumption and production, with its holistic approach, is key to achieving sustainability in the areas of mining, transport, chemicals and waste. The 10-year framework of programmes on sustainable consumption and production patterns, called for at the World Summit on Sustainable Development, held in 2002, provides an opportunity to address the themes of the current thematic cycle together, in a holistic and comprehensive manner. It is aimed at developing a policy framework for resource efficiency, with a view to decoupling economic growth from resource use and environmental impacts throughout the product life cycle. The framework allows for coordination and cooperation between new and existing initiatives on sustainable consumption and production and provides a platform for sharing, replicating and scaling up good practices, as well as supporting the development of policies, partnerships and capacity-building aimed at accelerating the shift towards sustainable consumption and production. The programmes under the 10-year plan that could emerge from the nineteenth session of the Commission on Sustainable Development could focus on key sustainable consumption and production policies and cross-cutting programmes as well as programmes specific to given stages of the life cycle. Programmes on the current themes of waste management, transport, chemicals and mining, could be considered for inclusion.

IV. Means of implementation

46. Over the past two years, the world has witnessed the emergence of multiple global crises related to food, fuel and finance. Instability in the energy and commodities markets, global food shortages and water scarcity have most recently been overshadowed by a financial and economic crisis whose recessionary impacts continue to be felt in many parts of the world. Adding to the situation's complexity is climate change, a phenomenon that is exacerbating the impact of those crises. The effects are felt worldwide and have specific implications for the achievement of sustainable development and the Millennium Development Goals. While it is clear that the international community and national Governments face multiple and serious challenges, the situation also presents genuine opportunities to make a dramatic shift from "business as usual".[24]

47. The world economy is recovering from a severe downturn, but the recovery is still very fragile and uneven. The global jobs crisis has not subsided, as can be seen from the persistently high unemployment rates in the major developed countries and the increased rates of underemployment and vulnerable employment in many developing countries.

48. The perceived need among many donor countries to start fiscal consolidation sooner rather than later could put resource availability under further pressure at a juncture where sustained support for progress on the Millennium Development Goals is crucial. The prospect of concluding a development-oriented Doha round in the near future still seems highly uncertain. Improved access to new technologies

[23] See E/CN.17/2010/8 and Corr.1.
[24] See UNEP/GCSS.XI/10/Add.1.

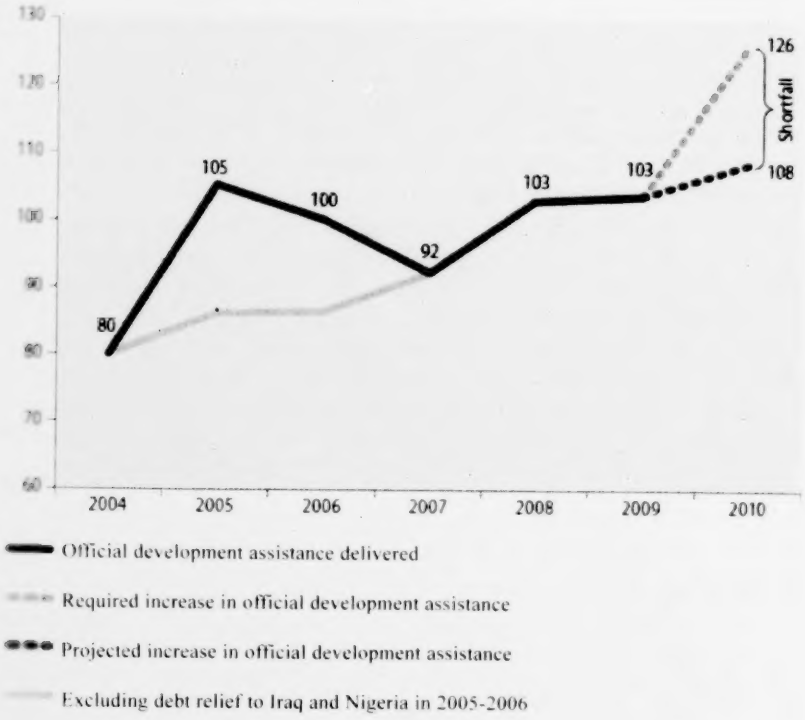
has become increasingly pressing, especially those technologies necessary for climate-change mitigation and adaptation.

49. Preliminary estimates for 2009 by the secretariat of the Development Assistance Committee of the Organization for Economic Cooperation and Development (OECD) and its review of aid budgets for 2010 indicate that Development Assistance Committee members as a whole were not on track to meet the 2010 aid volume targets (see fig. VI). Indeed, OECD has projected that total official development assistance in 2010 will fall $18 billion short (in 2004 prices and exchange rates) of the updated target set at the G-8 summit held in Gleneagles, Scotland. Translated into more recent 2009 prices, the shortfall amounts to $20 billion. No intermediate targets have been adopted for the years after 2010, leaving the United Nations target as the remaining applicable benchmark, against which the delivery gap in 2009 is $153 billion.[25]

Figure VI

Official development assistance since 2004, in relation to 2010 commitments

(Billions of 2004 United States dollars)



Source: *Millennium Development Goal 8: The Global Partnership for Development at a Critical Juncture. Millennium Development Goal Gap Task Force Report 2010.*

[25] See *Millennium Development Goal 8: The Global Partnership for Development at a Critical Juncture. MDG Gap Task Force Report 2010* (United Nations publication, Sales No. E.10.I.12).

50. The global financial and economic crisis increased the need for many developing countries to secure substantial additional, quick-disbursing financial support. The international community responded with substantially increased funding and reform of multilateral financial facilities. In the case of the International Monetary Fund, in January 2010, countries that qualified to draw concessional resources were given expanded access to a simplified set of facilities. Multilateral development banks also sharply boosted their lending in the face of the crisis. In particular, the International Development Association of the World Bank committed $14 billion in loans in 2009, a 20 per cent increase over 2008.[26]

51. Delivery on aid targets for least developed countries has been disappointing. The most recent data show that the overall Development Assistance Committee official development assistance effort was 0.09 per cent of donor gross national income in 2008, well below the target of 0.15 per cent.[25] As a result of persistent calls to scale up aid to Africa, such aid has been growing significantly, but not enough to meet the Gleneagles target. To meet that target, Africa's official development assistance in 2009 would have had to exceed $61 billion.

52. Two other groups of countries, small island developing States and landlocked least developed countries, require special developmental attention. According to OECD data, small island developing States received almost $4 billion in official development assistance in 2008, an amount that has grown relatively slowly over the past decade (3.2 per cent annually, on average, in 2008 prices and exchange rates). Landlocked least developed countries received almost $23 billion in official development assistance in 2008, reflecting an increase of 9 per cent annually since 2000 owing to the fact that Ethiopia and Afghanistan are in this group as the second- and third-largest aid recipients in the world.[25]

53. The most recent comprehensive survey of the implementation of the Paris principles — national ownership, alignment, harmonization, managing for results, and mutual accountability — has shown that, of the 12 numerical targets contained in the Paris Declaration on Aid Effectiveness, the target of aligning and coordinating 50 per cent of technical assistance projects with country programmes had been achieved in 2007. Donors had also made good progress towards the goal of untying all aid. Further, from 2005 to 2008, developing countries made good progress in improving their public financial management systems (36 per cent of countries had improved their score for public financial management, against a target of at least 50 per cent). Yet much less progress had been made towards the remaining targets, in particular regarding the use of local country systems, the predictability of aid flows and the reduction of the transaction costs of providing aid.[27]

54. Another focus of attention has been the transparency of official development assistance. The lack of relevant and timely information on aid flows impedes the ability of Governments to plan, budget and evaluate the impact of aid in their countries. Together with governmental financial transparency, official development assistance transparency strengthens domestic accountability and the participation of citizens, as well as parliaments, in decisions about programmes and projects, and

[26] See OECD, "Development aid rose in 2009 and most donors will meet 2010 aid targets", 14 April 2010, available from www.oecd.org.

[27] See OECD, *2008 Survey on Monitoring the Paris Declaration: Making Aid More Effective by 2010*, Paris, 2008.

also facilitates the process of holding Governments to account for development results.

55. Mutual accountability is also very important, but, according to the available date, by the end of 2009 only seven countries had established fully functioning mutual accountability mechanisms,[28] and the resultant changes in provider behaviour have been uneven. Country-level experience shows that national aid policies and joint performance frameworks can help improve mutual accountability.[25]

56. Regarding South-South cooperation, the Governments of countries with developing economies and economies in transition that inform the OECD of their aid effort reported about $9.6 billion of assistance in 2008. Governments of transition economies in Eastern Europe provided more than $800 million, and Turkey provided almost that amount. While this accounts for only about 10 per cent of Development Assistance Committee bilateral aid, the volume of aid has shown strong growth. For example, from 2006 to 2008, the flow of aid grew by almost half in constant prices and exchange rates. In addition, it appears that at least another $2 billion has been provided by non-reporting countries, primarily by China, but with substantial aid also having been provided by India and the Bolivarian Republic of Venezuela. Significant contributions in aid have also been made by Brazil, Nigeria and South Africa. Furthermore, despite the strain of the global financial and economic crisis on many of those providers, it is likely that total contributions rose again in 2009. If pledges are kept, it is thought that total flows could reach $15 billion in 2010.[25]

57. Our current economic model is consumption-led, production-driven and gross domestic product-measured. It has clearly improved the well-being of many societies over time, but its operations have also created significant negative "externalities" in the form of global environmental risks (e.g., climate change) and widespread ecological scarcities (e.g., freshwater shortage). Moreover, it fails to recognize such significant externalities in the accounts of society, which are largely focused on gross domestic product as the key macro-indicator of progress. As a result of these and other factors, our economic activity depletes natural assets whose ecosystem services are a key part of the well-being of the poor, and thus it risks exacerbating persistent poverty. The global risks it creates — both social and environmental — represent serious threats to the well-being of present and future generations.

58. The concept of a green economy in the context of sustainable development and poverty eradication, which will be one of the themes of the United Nations Conference on Sustainable Development, to be held in 2012, could provide an alternative economic model. A green economy has been defined by UNEP as an economy characterized by substantially increased investments in economic sectors that build on and enhance the earth's natural capital or reduce economic scarcity and environmental risks. Such sectors include, inter alia, renewable energy, low-carbon and public transport, energy-efficient buildings, cleaner technologies and manufacturing processes, and improved waste management. A green economy is therefore of relevance to all themes of the current cycle of the Commission on

[28] Afghanistan, Cambodia, Mozambique, Rwanda, the United Republic of Tanzania, Viet Nam and Yemen.

Sustainable Development. Thus, the shift to a green economy entails stimulating investments in more resource-efficient, sustainable production, which in principle should improve welfare by "doing more and better with less". Sustainable production practices reduce resource use and depletion and result in less pollution. Likewise, spurring the demand for more sustainable products through the promotion of sustainable consumption can create new markets for businesses that adopt sustainable production practices, resulting in increased revenue streams and new jobs.

59. Industries that produce basic materials — iron and steel, chemicals, cement, aluminium, and pulp and paper — are among the most energy-intensive industries. It may be difficult to regard such heavy industries as potentially "green". However, reducing their environmental impact, especially their carbon footprint, is a critical task. The increased use of secondary rather than raw materials offers substantial energy savings. In addition, transport, which is vital for daily economic activities, has many environmental, economic and social costs. These include congestion, energy consumption and greenhouse-gas emissions, resource depletion and damage to human health and well-being through air pollution, noise and traffic accidents.

60. Concerns have been raised in various international forums, in particular in the context of the Commission on Sustainable Development and preparations for the United Nations Conference on Sustainable Development, that green economy measures adopted unilaterally or differentially could lead to pressures for green trade protectionism, possibly in the form of green standards, subsidies and border tax measures.

61. On the other hand, a transition to a green economy can present trade opportunities for developing as well as developed countries in certain economic sectors. Brazil, for example, has a strong comparative advantage in bio-ethanol. Examples of such opportunities include the rapidly growing global markets for organic agriculture and biodiversity-based products, which can create both economic and environmental benefits. Moreover, trade financing and trade facilitation may play an important role in helping developing countries gain access to global markets for green goods and services. It is essential to explore the linkages between trade and a green economy to ensure that the multilateral trade system can foster freer trade in environmentally sound technologies and products, improved market access for developing countries, and technology transfer from developed to developing countries, while also avoiding green protectionism.

62. Trade can play a critical role as a connector between sustainable production and sustainable consumption, two essential aspects of the transition towards a green economy. A well-functioning international trade system could foster greater access to markets for environmentally friendly and environmentally enhancing goods and services. Such market creation and market access have the potential to benefit all countries, developed and developing alike.

63. Market-driven product information tools such as voluntary labelling and standards provide one mechanism for tackling unsustainable consumption and production patterns and practices. Such tools provide information about product externalities to consumers whose willingness to pay for more sustainable products creates a market incentive for producers. Standards and labelling can thus constitute useful policy tools for Governments to achieve sustainability objectives in a manner that is more flexible and acceptable than some forms of command-and-control

regulation. Supply chains, given their increasing globalization, have the potential for profound influence on the global market structure and its functioning. It is imperative that their wider use be accompanied by support measures to assist small-scale producers in developing countries to obtain certification at affordable costs.

64. To increase the effectiveness of consumer information tools as a global market tool for continuous environmental improvement and social progress, there is a need for a more systematic and harmonized methodology that will provide a common language for defining what makes products sustainable. This can be done through the creation of a global collaborative initiative that brings together all relevant stakeholders and groupings of consumer-oriented information systems through a coordinated learning process. The objective will be to identify, agree on and promote common principles on how to communicate sustainability information in a legitimate and practical way. Transparency in terms of standards-setting processes, and inclusiveness, allowing space for the priorities of and challenges facing developing countries, should be among the principles underlying such tools so as to enhance their development potential.

65. Communicating the sustainability information of products requires the availability of relevant data. The UNEP Life Cycle Initiative has developed a global framework for an environmental life-cycle impact assessment and a publication on life-cycle management as a business guide to sustainability. Activities in that framework are supported by targeted capacity-building for regional and national networks of life-cycle experts in developing countries. Ongoing activities related to databases will serve as the basis for future exchanges aimed at building compatibility between databases worldwide and supporting the development of national and regional databases in developing countries and countries with emerging economies.

66. Another important issue is sustainable public procurement. While it may be accurate to state that some export commodities and goods (such as fossil fuels, non-certified timber or energy-intensive electronic appliances) can be affected by the adoption of sustainable public procurement, it is also widely recognized that developing and emerging countries have the ability to adjust and could even benefit from greener, socially responsible procurement practices. Governments and corporations engaged in sustainable procurement generally provide sufficient lead time to allow markets to adjust and for suppliers to meet the requested specifications at a reasonable cost. Thus, far from limiting trade flows, the greening of international supply chains could be part of the process of enabling developing countries to acquire the expertise, skills and technologies necessary to improve the sustainability of their own production methods and technologies. Sustainable procurement policies are increasingly employed in both developed and developing countries. Given the size of government procurement budgets, this can be a powerful market-maker for more sustainable products. International cooperation in the development of sustainable procurement policies and systems has advanced considerably over the past decade, in part as a result of the Marrakech Task Force on Sustainable Public Procurement but also as a result of such private-sector initiatives as the International Green Purchasing Network.

67. Clearly, partnerships are essential to achieving sustainable development goals. Many of the challenges that developing countries are facing with respect to greening their economies, addressing the impacts of climate change and natural disasters call

for extended partnerships that go beyond traditional ones. Thus, for example, the Leading Group on Innovative Financing for Development, which includes 55 member countries, 5 observer countries, 16 international organizations and a number of non-governmental networks and organizations from the South and North, has come together to launch initiatives such as the international air ticket levy in order to show that it is politically possible to mobilize significant additional funds through innovative means of financing. Private foundations from developed and developing countries, along with millions of individuals of both large and small means, have also been making a growing contribution. According to OECD, cross-border grants for development assistance by private voluntary agencies totalled almost $24 billion in 2008.[29]

68. Another partnership that provides scientific assessments on ways of decoupling economic growth from environmental degradation is the International Panel for Sustainable Resource Management. It is a partnership designed to bring together academia and decision makers from both developing and developed countries, in government, civil society and the private sector, to support science-based decision-making. It is also initiating a capacity-building programme to support the development of scientific assessment on sustainable consumption and production and resource efficiency in developing countries. Since its launch in 2007, the Panel has grown to include 29 experts and has launched three assessment reports to address policymakers' needs with respect to biofuels, anthropogenic metals stocks and the environmental impacts of production and consumption, focusing on primary products and materials.

69. A joint programme on promoting resource efficiency and cleaner production in developing countries and transition economies has been established by UNEP and the United Nations Industrial Development Organization. The programme has the strategic goal of upscaling the implementation of resource efficiency and cleaner production approaches through the expansion of the national cleaner production centres network and targeted capacity-building to support existing national cleaner production centres and new resource efficiency and cleaner production service providers. The joint programme will also serve as a platform for the promotion of global knowledge and technology transfer through South-South and North-South collaboration.

70. The Partnership for Clean Fuels and Vehicles, with a clearing house housed by UNEP, was launched at the World Summit on Sustainable Development to assist developing and transitional countries in reducing vehicular air pollution through the promotion of lead-free, low-sulphur fuels and cleaner, more efficient vehicles. The Partnership for Clean Fuels and Vehicles has around 120 partners from government, civil society, the private sector, international organizations and institutions of higher learning. It has used a global/regional/national approach in which a global consensus is first developed (for example, with respect to the importance of phasing out leaded fuel); then regional awareness-raising workshops are held, to build consensus within a region; and finally, global and regional recommendations are presented at the country level.

[29] See OECD, *Development Cooperation Report 2010*.

V. Towards a coherent and robust framework for the implementation of decisions taken at the nineteenth session of the Commission on Sustainable Development: possible elements

71. As is well known, the ultimate goal of sustainable development is steady progress towards a future of universally shared human well-being and prosperity within the finite resources of the planet. Sustainable development is based on the knowledge that while there is an ultimate limit to the growth of material consumption, there are no limits to the improvements that can be made in terms of quality of life, prosperity and social well-being. The urgent goal is to achieve the development transition — to raise the living standards of poor countries and households, which will need to increase their material consumption to meet their basic needs — while ensuring that critical ecosystem limits are not exceeded. Accelerating the increase in the living standards of the poor while decelerating or reversing the impact of consumers — in particular high-income consumers — on the natural resources of the planet, will need to occur in tandem. This will depend on a global decoupling of growth in economic activities (production and consumption) from the negative environmental impacts that all too often accompany them.

72. Sustainable consumption and production is, together with poverty eradication and protection of the natural-resource base, at the heart of sustainable development, as noted in the Johannesburg Plan of Implementation. The sustainable consumption and production agenda encompasses important aspects of the challenges in each of the thematic areas of the current cycle of the Commission on Sustainable Development: chemicals, waste management, transport and mining. Thus, a 10-year framework of programmes on sustainable consumption and production can be useful in bringing coherence and coordination to initiatives aimed at improved resource efficiency, the de-linking of economy and environment, and waste and pollution minimization across these as well as other themes and sectors.

73. The Commission on Sustainable Development is the principal policymaking institution for sustainable development at the global level. Among other contributions, the Commission has actively solicited the participation of major groups in policymaking and promoted a particular institutional form, multi-stakeholder partnerships, to implement sustainable development.

74. The most important challenge is how to implement the decisions of the Commission. A number of steps have been taken since the last cycle (the sixteenth and seventeenth sessions of the Commission), including policy dialogues on implementation at the regular sessions and follow-up from the Chairs of the previous cycles.

75. This current cycle offers a unique opportunity to learn from recent experiences and build coherent programmes that would allow for monitoring and concrete targets to achieve the goals set by the Commission in its policy decisions. This could include, inter alia:

(a) Identifying priority actions and initiatives at different levels;

(b) Supporting peer-to-peer learning;

(c) Mobilizing support for the scaling up of successful initiatives and programmes;

(d) Encouraging economic and financial policies and public and private investments, both international and domestic, which promote sustainability in the themes of this cluster;

(e) Providing an enabling environment for and supporting research, innovation and technology cooperation and transfer so as to address the challenges associated with each of the themes and with the promotion of sustainable consumption and production across all themes.